THE PROXIMAL ASPECT OF THE DORSAL CONDYLAR SAGITTAL RIDGE OF THE METACARPAL/METATARSAL BONE IN YOUNG WARMBLOOD HORSES: RADIOGRAPHIC VARIATION AND HISTOLOGICAL CORRELATION

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Introduction: Radiography of the proximal part of the dorsal condylar sagittal ridge of the metacarpal/metatarsal bone has been described in young, clinically sound Thoroughbred racehorses demonstrating variable aspects. Different features may be expected in Warmblood horses as these are used for other purposes (jumping, dressage).

Objectives: (1) To describe and assess the prevalence of the radiographic variation of the proximal aspect of the dorsal condylar sagittal ridge of the metacarpal/metatarsal bone in young Warmblood stallions and (2) To describe the histological appearance of the detected variations in young Wamblood horses.

Methods: LM radiographic projections of the fetlock joints of 312 young Warmblood horses were scrutinised. The appearance of the bone surface of the proximal aspect of the dorsal condylar sagittal ridge was recorded and classified as normal, irregular, notch, indentation and lucency. Then, studied area was collected for histological processing.

Results: 51,1% of the ridges appeared normal, 19,3% were irregular, 8,9% had a notch, 8,1% had lucency and 12,2% presented an indentation. Histology revealed a smooth cortex, covered by hyaline cartilage and a reactive change proximally (aligned collagen fibres in a collagen matrix covered by a variable amount of loosely organised connective tissue) in the normal and irregular group. In the indentation and lucency group, a depression in the cortex was detected. The notch group presented an expansion of the cortex. The location of the reactive change in the indentation group was in the impression, whereas this varied in the lucency and notch group.

Discussion and conclusions: Morphological variation is present at the proximal aspect of the dorsal condylar sagittal ridge of the metacarpal/metatarsal bone in Warmblood horses. Horses with an indentation, lucency and a notch group showed histological findings that can potentially influence the function of the dorsoproximal aspect of the joint during hyperextension. Further research is warranted to assess the clinical relevance on the future sport career of these horses.